

## **PE PRESERVATION OF SECONDARY EVIDENCE SAMPLES FOR POSSIBLE FUTURE DNA ANALYSIS**

### **A. SCOPE**

- A.1 The purpose of this procedure is to preserve biological samples and pertinent information collected from items of evidence for possible future DNA analysis.

### **B. QUALITY CONTROL**

- B.1 Assign a lot# to a stock of deionized water to be utilized for the collection of biological material. Wet a swab as it would be wetted for sample collection and perform the entire DNA analysis procedure on this swab. The lot of deionized water will be deemed suitable for casework if no alleles are detected following DNA analysis. This lot may be utilized until consumed or the expiration date of one year is reached.

### **C. SAFETY**

- C.1 Treat all biological samples as potentially infectious. Gloves, a face mask, eye protection (when appropriate, e.g. safety glasses or a face shield) and a lab coat must be worn.

C.2 Distinguish all waste as general, biohazard or sharps and discard appropriately.

### **D. REAGENTS, STANDARDS, AND CONTROLS**

Not applicable

### **E. EQUIPMENT**

Not applicable

### **F. PROCEDURES**

#### **F.1 Evidence Packaging**

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F.1.1 Biological samples collected from evidence must be sampled, handled and stored so as to maintain the evidentiary value of the sample. At all times every sample shall be handled in such a fashion as to ensure its integrity, minimize degradation and contamination and maintain its chain of custody.

F.1.2 Evidence must be packaged in a manner to prevent contamination. Generally, reference samples are packaged separate from questioned samples. An exception may occur for reference samples that have previously been packaged with questioned samples (i.e. sexual assault kits and suspect evidence kits). All samples must be packaged in a manner where a distinct barrier is provided between samples. Using separate evidence envelopes or using a barrier between samples within an evidence envelope may accomplish this.

## F.2 Evidence Labeling

F.2.1 Every sample collected from an item of evidence must be labeled with a description of the source from which it was collected. At a minimum it will contain the laboratory number, date of collection and the examiner's initials. Recording the control number of the parent item of evidence is not necessary as it will be incorporated in the assigned sub-item number (i.e. a cutting from Item 1 will be given the sub-item designation Item 1.1).

F.2.2 Each case can generate several samples that are subsets of the original items. Each sample generated in a case will be described using the original item number (i.e. Item 1) and a sub-item suffix (i.e. Item 1.1). Subsequent samples from the same one piece of evidence should have the same item number, but a different sequential sub-item suffix (i.e. three stains/swabs collected from a shirt could be 1.1, 1.2, 1.3).

## F.3 Water Controls

F.3.1 If deionized water is required for the collection of biological material, an amount sufficient only for use during the current day will be obtained by the analyst. The lot# and expiration date of the deionized water must be documented in the notes.

## F.4 Evidence Retention

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F.4.1 In general, a portion of each stain/swab from a single item will be utilized for DNA analysis with the remainder of each stain/swab either being preserved as the new sub-item (if a single stain/swab), being placed into an item specific Primary Processing envelope or being retained with the respective original item. Each of these options will either be placed into a WCSO-FSD evidence storage location or submitted to the WCSO-FSD Evidence Section. All packaging containing samples will at a minimum be labeled with the laboratory number, date of collection, item/sub-item and examiner's initials. Note: The control number of the original item of evidence must be recorded on the packaging if it is not part of the utilized stain/swab naming system (e.g. A1 panties does not impart the information that it originated from Item 5 like Item 5.1 does).

F.4.3 All reference samples will be returned to the submitting agency.

## **G. INTERPRETATION GUIDELINES**

Not applicable

## **H. REFERENCES**

- H.1 Gill, P., "The Utility of 'Substrate Controls' in Relation to 'Contamination', *Forensic Science International*, 1997, 85: 105 – 111
- H.2 Kitchin, P.A., Szotyori, Z. Fromholc, C. and Almond, N., "Avoidance of False Positives", *Nature*, 1990, 344: 201
- H.3 Kwok, S. and Higuchi, R., "Avoidance of False Positives with PCR", *Nature*, 1989, 339: 237 – 238
- H.4 Pang, B.C.M. and Cheung, B.K.K., "Double Swab Technique for Collecting Touched Evidence," *Legal Medicine*, 2007, 9: 181-184
- H.5 Sarkar, G. and Sommer, S.S., "Shedding Light on PCR Contamination", *Nature*, 1990, 343: 27

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